



MEMORANDUM

To: CMAP Environment and Natural Resources Committee
From: CMAP Staff
Date: March 1, 2018
Re: Proposed ON TO 2050 Environment Indicator Targets

Following an approach established in GO TO 2040, ON TO 2050 will include various topic-specific indicators, which are a set of performance measures to benchmark the region's progress on plan implementation. The final set of indicators should highlight and complement all of the major recommendations made in ON TO 2050. All indicators will have targets for both 2025 and 2050 to evaluate near- and long-term progress.

A set of proposed indicators (along with data sources and methodologies) have already been reviewed by the relevant working committees. In some cases, staff have adjusted indicators to accommodate committee feedback. The rest of this document contains the proposed near-term (2025) and long-term (2050) targets for each indicator, as well as some discussion of how staff chose those targets.

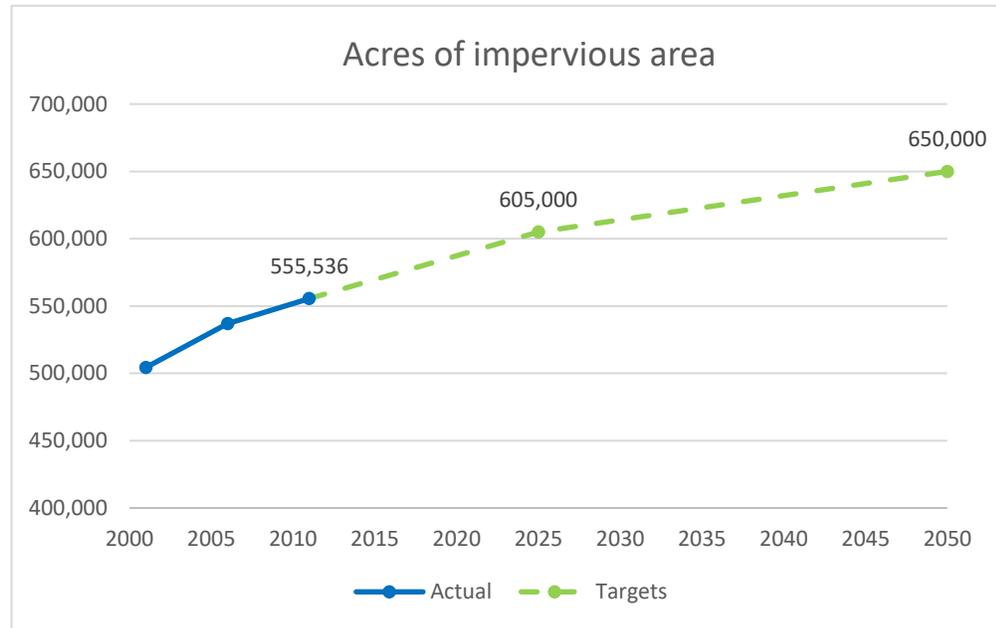
Acres of Impervious Area

Table with 2 columns: Indicator/Proposed Targets and Description. The 'Indicator' row describes the measurement of impervious surfaces. The 'Proposed Targets' row details growth projections for 2025 and 2050 based on socio-economic forecasts.

household and job growth over the same period (i.e. an 18% increase in acreage over 2010).

**2025:** 605,000 acres

**2050:** 650,000 acres



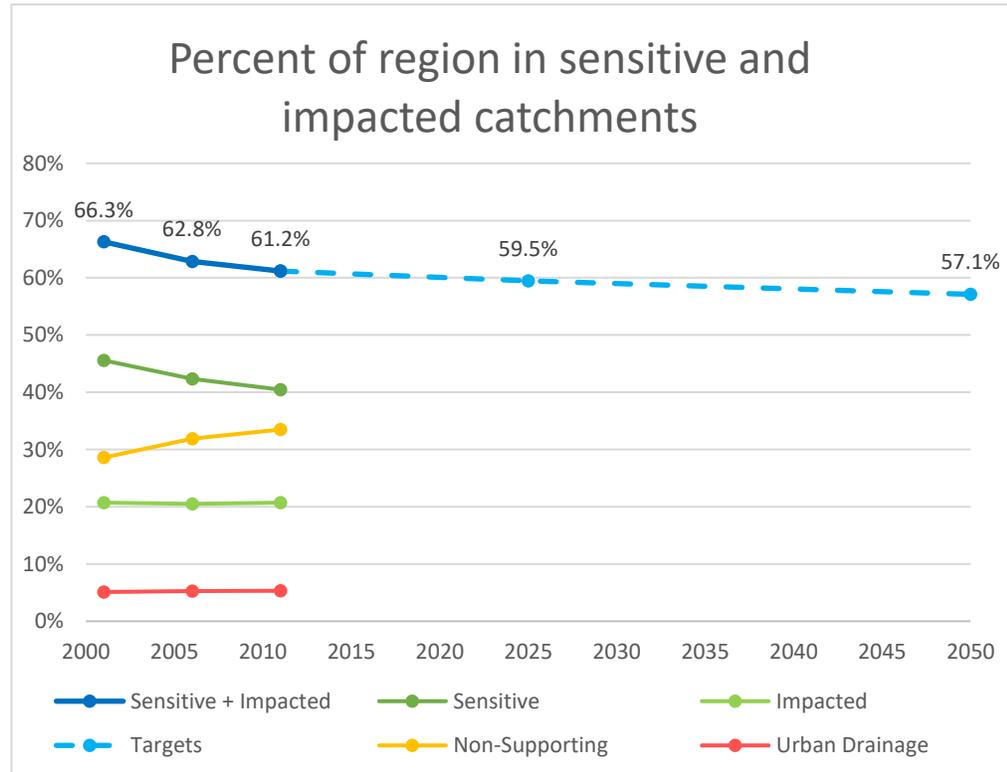
### ***Percent of Region in Sensitive and Impacted Watershed Catchments***

<p>Indicator:</p>	<p>This indicator tracks the change in impervious surface by watershed catchment throughout the region as an indicator of health and integrity of aquatic resources.</p> <p>Many of the region’s water resources are not meeting all goals of the Clean Water Act, and many waterbodies—especially small headwater streams—have not yet been assessed. Given this lack of data, this indicator uses the impervious cover model to understand watershed health and water quality.</p> <p>Research has shown that small watersheds with less than 10% impervious cover tend to be associated with healthy streams. Further increases of impervious cover (up to 25%) can lead to impacted streams that could be restored with intervention. Small watersheds with increases in impervious coverage (up to 60%) are considered non-supporting, and when impervious coverage exceeds 60% full restoration of urban drainage systems to pre-development habitat quality may not be possible.</p>
<p>Proposed Targets:</p>	<p>Using National Land Cover Database (NLCD) data from 2001-2011, past trends were analyzed to understand the recent decline in the proportion of the region in the sensitive and impacted categories. Reflecting the policy goal of maintaining as many watershed catchments in the sensitive and impacted categories as possible, the target methodology assumes that growth in</p>

impervious cover will slow as the region’s population and employment density increase through infill and reinvestment. Specifically, the indicator assumes the rate of change for each category will continue at 60% of the 2001-2011 rate through 2025, and 50% of the 2001-2011 rate from 2025 until 2050.

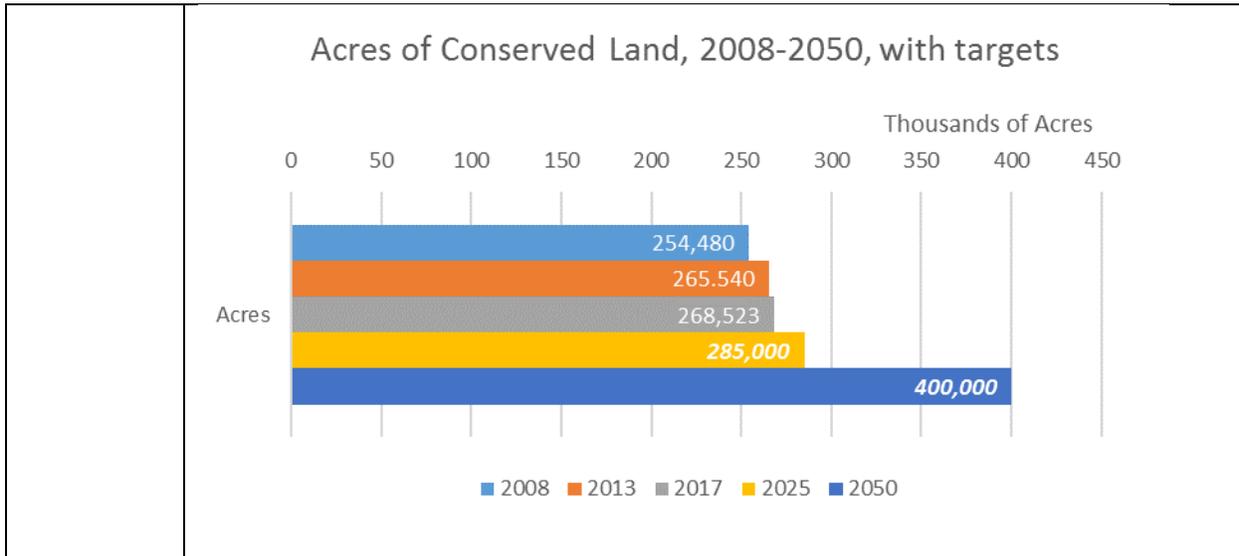
**2025:** 59.5% of region’s land in sensitive or impacted catchments

**2050:** 57.1% of region’s land in sensitive or impacted catchments



### ***Acres of Conserved Land***

Indicator:	This indicator measures the total number of acres in the region used for land and water preservation (i.e. forest preserves, natural areas, and conservation easements). This measure does not include acres of recreational parkland in the region, land used for golf courses, unprotected farm land, or land used for historic preservation.
Proposed Targets:	<p>The 2025 target was developed by continuing a straight-line increase in acres of open space in the region based on the rate of land conservation from 2008 to 2017. The 2050 target matches the long-term target from GO TO 2040.</p> <p><b>2025:</b> 285,000 acres</p> <p><b>2050:</b> 400,000 acres</p>



**Percentage of Population with Adequate Access to Parks**

<p>Indicator:</p>	<p>This indicator measures per capita access to parks based on geographic proximity to recreational open space. Values are reported as the percentage of the regional population with access to at least four acres of parkland per 1,000 residents and at least ten acres per 1,000 residents. Generally, the four-acre standard is appropriate for denser communities, while the ten-acre standard is intended for less-dense areas.</p>
<p>Proposed Targets:</p>	<p>GO TO 2040 sought to connect all of the region’s population to four acres of parkland per 1,000 residents and 70% of the population to 10 acres of parkland per 1,000 residents by 2040. As part of the indicator refinement process for ON TO 2050, staff discovered a major methodological flaw in the GO TO 2040 park access calculations, whereby each subzone’s population was considered independently of its neighbors, leading to significantly inflated estimates of accessible acreage per 1,000 residents. The methodology has been corrected, but the GO TO 2040 targets are unattainable given the updated baseline data.</p> <p>To identify a more appropriate goal, CMAP staff conducted a GIS analysis to determine the percentage of the population that could gain access to four or ten acres per 1,000 residents by converting currently vacant land to parks in areas currently below these park access thresholds. Were this ambitious strategy undertaken, 65% of the population would have access to four or more acres of parkland per 1,000 residents, and 40% would have access to ten or more acres of parkland per 1,000 residents. While CMAP does not advocate for converting all vacant parcels to parks, this number does provide a useful “ballpark” estimate for what is possible. This is an ambitious goal, but not unattainable, as land use changes during the next 35 years may reduce the land needed for transportation and utility corridors,</p>

while changes in precipitation patterns may increase the demand for open space providing stormwater management.

Once these 2050 targets were identified, a straight-line projection was used to determine interim goals for 2025.

Four acres per 1,000 residents

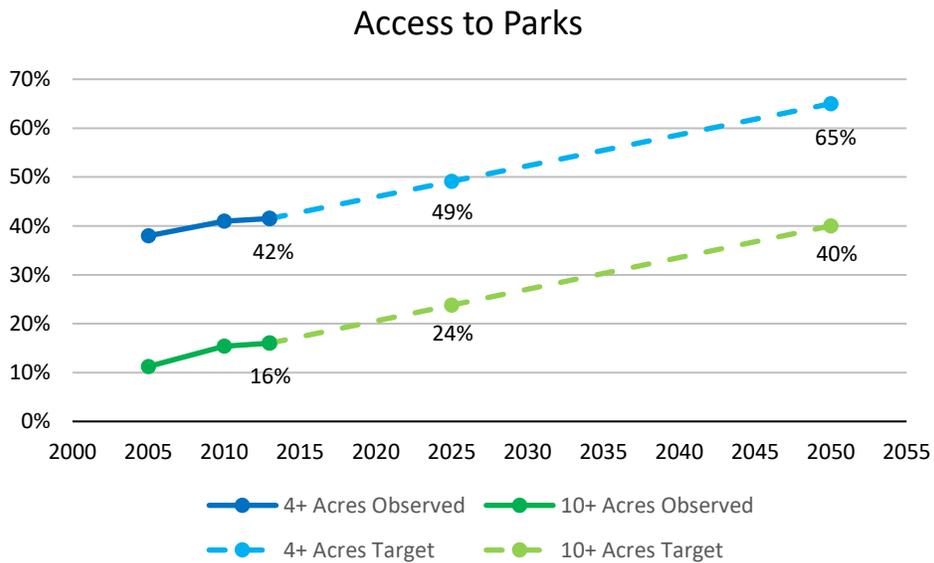
2025: 49 percent of region’s population

2050: 65 percent of region’s population

Ten acres per 1,000 residents

2025: 24 percent of region’s population

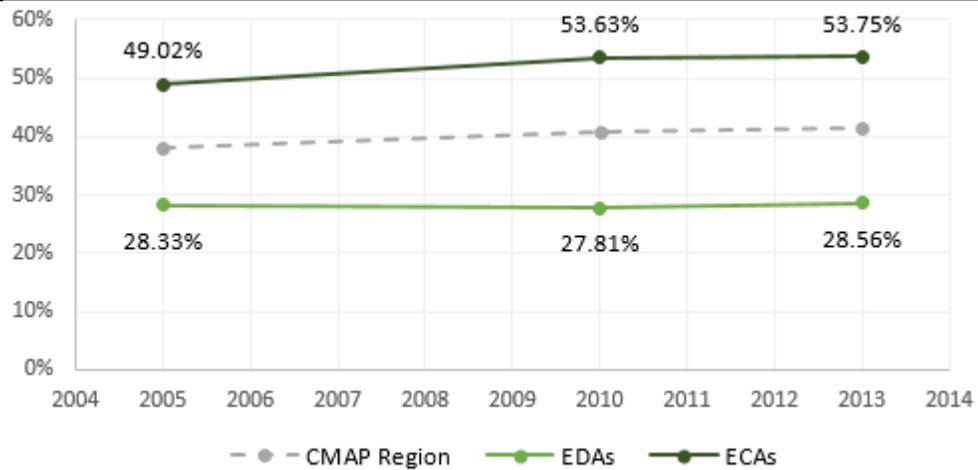
2050: 40 percent of region’s population



Inclusive Growth Perspective:

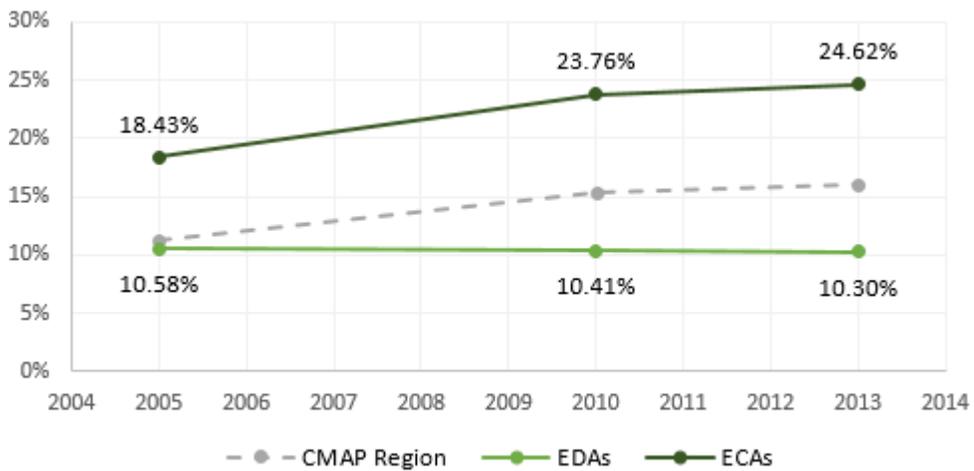
As a kindred indicator to this core indicator, ON TO 2050 will track access to parks for residents in economically disconnected areas (EDAs). Disparities exist in access to parks between residents in economically disconnected areas and those in economically connected areas (ECAs). Residents in economically disconnected areas have lower access to parks regardless of development density. Targets will not be set for this kindred indicator.

*Share of population in economically disconnected areas with access to four acres of parkland per 1,000 residents, 2004-2014*



Source: Chicago Metropolitan Agency for Planning analysis of U.S. Census data and CMAP's Land Use Inventory data.

*Share of population in economically disconnected areas with access to ten acres of parkland per 1,000 residents, 2004-2014*



Source: Chicago Metropolitan Agency for Planning analysis of U.S. Census data and CMAP's Land Use Inventory data.

### **Percentage of Regional Greenways and Trails Plan Completed**

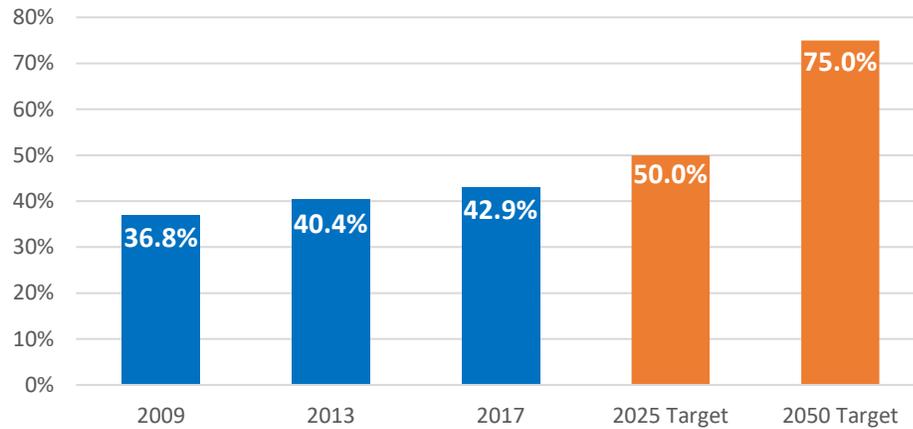
Indicator:	This indicator tracks the total miles of all trails in the Northeastern Illinois Regional Greenways and Trails Plan (RGTP) that are completed or let for construction. The RGTP includes not only off-street trails, but also key on-street facilities and side paths. The RGTP includes trails in Aux Sable Township in Grundy County. Out-of-region connections to systems in Indiana and Wisconsin are not included in indicator totals.
Proposed Targets:	As of 2017, 41.5% of the 2016 Regional Greenways and Trails Plan has been completed, including both existing and programmed trail miles. Extrapolating the average annual rate of completion from 2009 to 2017 would yield 49.0%

completion by 2025 and 68.1% completion by 2050. The proposed targets are slightly higher than those figures.

**2025:** 50%

**2050:** 75%

Percentage of Northeastern Illinois Regional Greenways and Trails Plan completed, 2009-2017



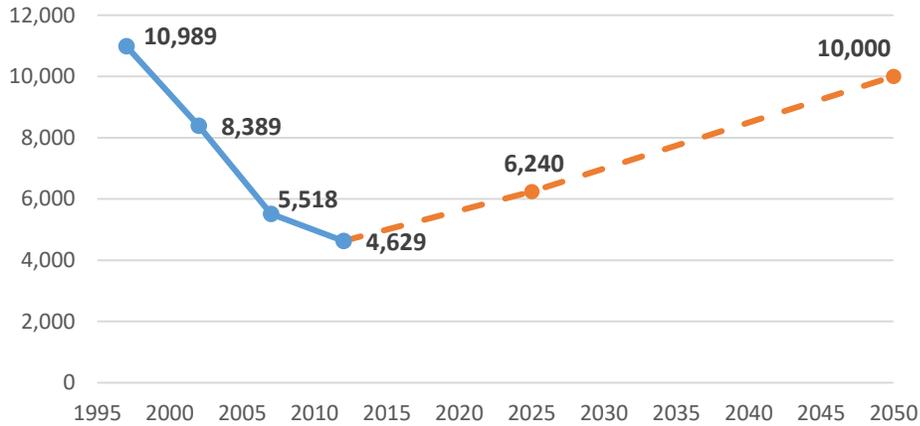
### ***Acres of Farmland Used to Harvest Food for Direct Human Consumption***

<p>Indicator:</p>	<p>This indicator tracks the total number of farmland acres in the region that support food for direct human consumption. The U.S. Department of Agriculture defines “direct consumption” as the totals found in these categories: orchards, peanuts, potatoes, sweet potatoes, and vegetables. This data excludes community gardens and other entities not counted in the Census of Agriculture.</p>
<p>Proposed Targets:</p>	<p>The goal for this indicator is for the acreage of farmland used to harvest food for direct human consumption to increase at the same rate targeted by the GO TO 2040 Plan Update: a 75% increase by 2040. Because ON TO 2050’s policy goals for this topic are unchanged and no new data is available for this indicator, the new targets reflect the same annual rate of increase as those in the GO TO 2040 Plan Update.</p> <p>The chart below shows a decline in the number of acres in the region used to harvest food for direct human consumption over the last four censuses; achieving the 2050 goal will increase the number of acres used for this purpose to a level comparable to that seen in the year 2002 by 2040. The 2025 goals reflect a straight-line increase from current conditions, while the 2050 goal reflects a slightly higher, rounder target than a straight-line increase.</p>

**2025:** 6,240 acres of land harvesting food for human consumption in the region.

**2050:** 10,000 acres of land harvesting food for human consumption in the region.

***Acres of Farmland Used to Harvest Food for Direct Human Consumption***



### ***Public Supply Water Demand***

Indicator:	This indicator tracks total daily public supply water demand, as well as per capita demand for residential water use. Public supply water refers to water that is withdrawn, treated, and delivered to residential, industrial, commercial, governmental, and institutional users via public supply water systems.
Proposed Targets:	<p>This indicator will have two sets of targets -- one measuring total daily water demand, and one measuring daily residential water demand on a per capita basis. Per capita measurement allows for an examination of water conservation as an increase in total demand due to population or industrial growth can mask gains in conservation. At the same time, it is important to examine total demand because potable water is a finite resource and growth in our region is expected to increase the demand for water in 2050 above the current level of consumption.</p> <p>Target values will be taken from the updated regional water demand forecast, which is set to be released in October 2018. The updated regional water demand forecast will utilize CMAP's ON TO 2050 socio-economic forecast.</p> <p><b>2025:</b> TBD</p> <p><b>2050:</b> TBD</p>

**Greenhouse Gas Emissions**

<p>Indicator:</p>	<p>This indicator measures the total amount of greenhouse gas (GHG) emissions produced in the CMAP region. GHG emissions are calculated using the ICLEI Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) BASIC methodology, which includes all emission from buildings, solid waste, wastewater and intraregional transportation. Emissions are reported in million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e).</p>
<p>Proposed Targets:</p>	<p>GO TO 2040 sought to reduce the region’s greenhouse gases by 80 percent, relative to 1990 levels, by the year 2050. This goal is consistent with the stabilization pathway, which is an emissions pathway designed to limit global warming to 2° Celsius (3.6° Fahrenheit). The region’s 2040 target was 47 MMTCO<sub>2</sub>e, or 4.3 metric tons of CO<sub>2</sub> equivalent per capita.</p> <p>CMAP is currently working with a consultant team to revise the 2010 inventory and conduct a new inventory for the year 2015. Because the 2010 inventory methodology is changing, the region’s GHG emissions targets will likely need to be revised to ensure accuracy. The updated inventory, and the new, 2015 inventory, will be released in April 2018. CMAP remains committed to the stabilization pathway.</p> <p><b>2025: TBD</b></p> <p><b>2050: TBD</b></p>